

Coast Guard, DHS

§ 160.010-7

peripheral-body type buoyant apparatus is not considered in determining the capacity.

(b) [Reserved]

§ 160.010-7 Methods of sampling, inspections and tests.

(a) *General.* Production tests must be conducted under the procedures in subpart 159.007 of this chapter. An inspector from the independent laboratory must inspect the place of manufacture, observe the various operations involved in the construction process and determine that buoyant apparatus are made in accordance with this subpart and of materials and parts conforming strictly with the plans and specifications submitted by the manufacturer and approved by the Commandant (G-MSE).

(b) *Sampling of production lots.* A production lot must consist of not more than 300 buoyant apparatus of the same design and capacity manufactured by one factory. Samples for production tests must be selected at random from each lot. The required sample size for various lot sizes is given in Table 160.010-7(b).

TABLE 160.010-7(b)—SAMPLE SIZE FOR VARIOUS LOT SIZES

Lot size	Sample size
1 to 30	1
31 to 60	2
61 to 90	3
91 to 300	4

(c) *Testing of sample buoyant apparatus from production lots.* Each sample buoyant apparatus selected for test from a production lot must be subjected to the tests described in paragraphs (d) through (g) of this section. The stability test in paragraph (h) must be performed whenever a question of stability arises.

(d) *Strength tests.* The buoyant apparatus tested for approval must be subjected to the drop test. Buoyant apparatus tested for production lot inspections must also be subjected to the drop test except that in the case of peripheral body type apparatus, the beam loading test may be substituted.

(1) *Drop test.* Drop the complete sample buoyant apparatus into still water from a height of 18 m (60 ft.) twice,

once flat and once endwise. There must be no damage that would render the apparatus unserviceable.

(2) *Beam loading test.* The buoyant apparatus must be stood on edge on one of its longer sides. A wood block 600 mm (24 in.) long and wide enough to cover the body of the apparatus must be centered on the top edge of the apparatus. A loading beam must be set at right angles to the float at a height so that the beam is in a horizontal position with its center on the center of the wood block. The loading beam must be hinged at one end and a load applied at the other end at a uniform rate of 225 kg (500 lb.) per minute until the load at the end of the beam as shown on Table 160.010-7(d)(2) is reached. The beam is then held stationary for 10 minutes. The device used to apply the load must be a chain fall, hydraulic cylinder or other device that allows the device to unload as the strain on the buoyant apparatus relieves. At the end of the 10 minute period, the drop in the load on the device must not exceed the maximum permissible drop shown in Table 160.010-7(d)(2). If the buoyant apparatus is not one of the sizes listed in the table, the loads must be determined by linear interpolation.

NOTE: Because of the lever ratio of the beam loading apparatus described here, the actual loads applied to the apparatus are twice the loads shown in the Table.

TABLE 160.010-7(d)(2)—BEAM LOADING TEST

Size of buoyant apparatus (persons)	Test load (kg (lb.))	Maximum permissible drop (kg (lb.))
60	2,400 (5,280)	120 (264)
40	1,800 (3,960)	90 (198)
25	1,500 (3,300)	75 (165)
15	1,200 (2,640)	60 (132)
10	900 (1,980)	45 (100)

(e) *Buoyancy test.* Known weights are loaded on the sample buoyant apparatus until it is awash. The buoyancy is the downward force exerted by the weights loaded on the apparatus. A raised platform of known weight having two runners on edge spaced so as to bear on the apparatus may be used to support the weights out of water to

§ 160.010-8

avoid the necessity for making allowances for the displacement of submerged weights. This test is not a required production test if the manufacturer—

(1) Uses the same plastic buoyancy foam used in previous production lots,

(2) Determines that the density of each batch of foam used is within a range specified on the approved plans, and

(3) Closely controls the amount of foam used in each apparatus.

(f) *Watertight integrity test.* The buoyant apparatus is submerged for 24 hours at a depth of 3 m (10 ft.) or equivalent water pressure. The final buoyancy of the buoyant apparatus is determined in accordance with paragraph (e) of this section. The final buoyancy must be at least 145 N (32 lb.) per person capacity of the buoyant apparatus or 180 N (40 lb.) per person capacity if the apparatus is designed so that persons supported are only partially immersed or if facilities are provided for climbing on top of the apparatus. The loss of buoyancy must not exceed 5 percent of the initial buoyancy. This test is not a required production test if the manufacturer uses the plastic buoyancy foam controls permitted as an alternative to the buoyancy test in paragraph (e) of this section.

(g) *Painter attachment strength test.* The apparatus must be positioned with its painter attachment fitting at the lowest point of the apparatus, directly below the center of buoyancy. The apparatus must be suspended in this position from the highest side. A load equal to twice the buoyancy of the apparatus must be suspended from the painter attachment fitting for 10 minutes. The fitting must remain firmly attached to the buoyant apparatus and the apparatus must not sustain any visible damage.

(h) *Stability test.* With the sample buoyant apparatus floating in water, a weight of 22.5 kg of iron per meter of length (15 lb. per foot) must be suspended in the water from the life lines along one of the longer edges. The same test must be performed along one of the shorter edges. The minimum weight along any one edge must be 27 kg (60 lb.). The buoyant apparatus must neither capsize nor become par-

46 CFR Ch. I (10-1-03 Edition)

tially awash under either of these tests.

(i) *Weight test.* One buoyant apparatus of the lot submitted for approval must be weighed. The weight of the complete buoyant apparatus must be within the limit required in § 160.010-3(d).

(j) *Lot acceptance or rejection.* Inability of a sample buoyant apparatus to pass any one or more of the tests required in this section causes rejection of the lot. Each buoyant apparatus in a rejected lot must be reworked by the manufacturer to correct the defects found before the lot is resubmitted for inspection and testing.

[CGD 79-167, 47 FR 41372, Sept. 20, 1982, as amended by CGD 95-072, 60 FR 50466, Sept. 29, 1995; CGD 96-041, 61 FR 50733, Sept. 27, 1996]

§ 160.010-8 Nameplate and marking.

(a) A substantial nameplate must be permanently attached to each buoyant apparatus. The nameplate must contain the name of the manufacturer, lot designation or serial number, approval number, dimensions, and number of persons capacity. Space must be provided for the date, and the identification of the independent laboratory.

(b) The nameplates of buoyant apparatus accepted must be marked with the identification of the independent laboratory and the date.

§ 160.010-9 Procedure for approval.

(a) A buoyant apparatus is approved by the Coast Guard under the procedures in subpart 159.005 of this chapter.

(b) The test required for approval are those in § 160.010-7, and must be performed on the first production lot of buoyant apparatus produced by the manufacturer.

§ 160.010-10 Independent laboratory.

(a) The approval and production tests in this subpart must be conducted by an independent laboratory accepted by the Coast Guard under subpart 159.010 of this chapter.

(b) [Reserved]

Subparts 160.011-160.012 [Reserved]